

IN THE CLAIMS:

1-2. (Cancelled)

3. (Previously Presented) A solid electrolytic capacitor comprising a capacitor element having an anode foil and a cathode foil wound with a separator interposed therebetween, the capacitor element being provided with a solid electrolyte layer of an electroconductive polymer by impregnating the capacitor element with a polymerizable monomer and an oxidizing agent, wherein a compound with a vinyl group is added to the separator, a borate compound is added to the capacitor element and heated, and a conjugate composed of a borate compound and the compound with a vinyl group is added to the capacitor element.

4. (Previously Presented) The solid electrolytic capacitor according to claim 3, characterized in that the borate compound is boric acid or borax.

5. (Previously Presented) The solid electrolytic capacitor according to claim 3, characterized in that the separator contains as a binder 10 wt% or more of a compound with a vinyl group, and a predetermined coupling agent is added to the capacitor element prior to impregnation with the polymerizable monomer and the oxidizing agent.

6. (Previously Presented) The solid electrolytic capacitor according to claim 5, characterized in that the coupling agent is a single coupling agent, or two or more coupling agents selected from a silane coupling agent, a titanium coupling agent, and an aluminum coupling agent.

7-15. (Cancelled)

16. (Currently Amended) A method for manufacturing a solid electrolytic capacitor characterized in that by the steps of:

winding an anode foil and a cathode foil ~~are wound~~ with a separator composed of a compound with a vinyl group interposed therebetween to form a capacitor element;

impregnating the capacitor element ~~the capacitor element is impregnated~~ with a solution of a borate compound; and

heating the capacitor element heated to form a conjugate composed of the borate compound and the compound with a vinyl group, and a solid electrolyte layer comprising an electroconductive polymer is formed thereafter.

17. (Currently Amended) The method for manufacturing a solid electrolytic capacitor according to claim 16, characterized in that a separator containing as a binder 10 wt% or more of a compound with a vinyl group is used as the separator, and a predetermined coupling agent is added to the capacitor element prior to impregnation with ~~the~~ a polymerizable monomer and ~~the~~ an oxidizing agent.

18. (Currently Amended) The method for manufacturing a solid electrolytic capacitor according to claim 17, characterized in that the predetermined coupling agent is a single coupling agent, or two or more coupling agents selected from a silane coupling agent, a titanium coupling agent, and an aluminum coupling agent.

19-28. (Cancelled)

29. (New) The solid electrolyte capacitor according to claim 3 wherein the oxidizing agent includes one of Ferric p-toluenesulfonate, periodic acid and iodic acid.

30. (New) The solid electrolytic capacitor according to claim 29 wherein the borate compound is selected from one of an ammonium salt of boric acid, metal salt of boric acid and an ester of boric acid.

31. (New) The solid electrolyte capacitor according to claim 30 wherein the polymerizable monomer is 3, 4-ethylene dioxythiophane.

32. (New) The solid electrolyte capacitor according to claim 31 wherein acetal alboxy aluminum diisopropylate is added to the capacitor element.

33. (New) A solid electrolytic capacitor comprising;  
a capacitor element having an anode foil and a cathode foil wound with a separator interposed therebetween, the capacitor element including a coupling agent selected from a group consisting of a silane coupling agent, a titanium coupling agent, and an aluminum coupling agent, the capacitor element being provided with a solid electrolyte layer of an electroconductive polymer by impregnating the capacitor element with a polymerizable monomer and an oxidizing agent, wherein a compound with a vinyl group is added to the separator, a borate compound is added to the capacitor element and heated, and a conjugate composed of a borate compound and the compound with a vinyl group is provided in the capacitor element.

34. (New) The solid electrolytic capacitor according to claim 33, characterized in that the borate compound is boric acid or borax.

35. (New) The solid electrolytic capacitor according to claim 34, characterized in that the separator contains as a binder 10 wt% or more of a compound with a vinyl group, and a predetermined coupling agent is added to the capacitor element prior to impregnation with the polymerizable monomer and the oxidizing agent.

36. (New) The method for manufacturing a solid electrolytic capacitor according to claim 16 wherein the borate compound is selected from one of an ammonium salt of boric acid, metal salt of boric acid and an ester of boric acid.

37. (New) The method for manufacturing a solid electrolytic capacitor according to claim 16 wherein acetal alboxy aluminum diisopropylate is added to the capacitor element.

38. (New) The method for manufacturing a solid electrolytic capacitor according to claim 17 wherein the oxidizing agent includes one of Ferric p-toluenesulfonate, periodic acid and iodic acid.

39. (New) The method for manufacturing a solid electrolytic capacitor according to claim 17 wherein the polymerizable monomer is 3, 4-ethylene dioxythiophane.

40. (New) The method for manufacturing a solid electrolytic capacitor according to claim 18 wherein the capacitor element is heated within a range of 150°C to 200°C.

41. (New) The method for manufacturing a solid electrolytic capacitor according to claim 40 wherein the oxidizing agent is added with a solvent that is between 45 wt% to 57 wt%.